

WHAT IS CLAIMED IS:

1. An abrasive for metal comprising a particle having a functional group capable of trapping a metal ion.

2. The abrasive for metal according to claim 1, wherein the functional group is at least one selected from the group consisting of Oxygen atom, Nitrogen atom, Sulfur atom, Phosphorous atom, Arsenic atom and Selenium atom.

3. The abrasive for metal according to claim 1, wherein the functional group capable of trapping a metal ion is at least one selected from the group consisting of -OH, -COOM, $>C=O$, -O-, -COOR, -CONH₂, -NO, -NO₂, $\geq N \rightarrow O$,

-SO₃M, -PHO(OM), -PO(OM)₂, -AsO(OM)₂, -NH₂, $>NH$, $\geq N$,

-N=N-, $>C=N-$, $>C=N-OH$, $>C=NH$, -SCN, -SH, -S-, $>C=S$, -COSM, -CSSM, -CSNH₂, -NCS, $>P-$, $>As-$, -SeH, $>S=Se$ and -CSeSeM, wherein M represents hydrogen, an alkali metal, an alkaline earth metal or an ammonium group and R represents a hydrocarbon.

4. The abrasive for metal according to claim 1, wherein the particle having a functional group is a particle comprising an ion exchange resin.

5. The abrasive for metal according to claim 1, wherein the particle having a functional group capable of trapping a metal ion is a particle comprising an ion exchange resin, and the average particle diameter of the particle is 1.0 μm or less.

6. The abrasive for metal according to claim 1, wherein the particle having a functional group is a particle comprising a chelate resin.

7. The abrasive for metal according to claim 1, wherein the particle having a functional group is a particle comprising a chelate resin, and the average particle diameter of the particle is 1.0 μm or less.

8. A process for producing the abrasive for metal according to claim 5, wherein the process comprises wet-milling an ion exchange resin.

9. A process for producing the abrasive for metal according to claim 7, wherein the process comprises dry-milling and then wet-milling an ion exchange resin.

10. The process for producing the abrasive for metal according to claim 7, wherein the process comprises wet-milling chelate resin.

11. The abrasive for metal according to claim 1, wherein the metal is a copper-based metal.

12. A polishing composition for metal comprising an abrasive for metal according to claim 1, an oxidizing agent

and water.

13. The polishing composition for metal according to claim 12, wherein the metal is a copper-based metal.

14. The polishing composition for metal according to claim 12, wherein the oxidizing agent is hydrogen peroxide.

15. The polishing composition for metal according to claim 12, wherein the composition further comprises at least one selected from the group consisting of a spherical particle, benzotriazole and a benzotriazole derivative.

16. A process for polishing a metal by chemical mechanical polishing, wherein the process is conducted by using the polishing composition for metal according to claim 12.

17. The process according to claim 16, wherein the metal is a copper-based metal.